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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,161	11/03/2003	Bret D. Cannon	50005-147	3808
32215	7590	01/11/2006	EXAMINER	
KLARQUIST SPARKMAN, LLP 121 SW SALMON STREET, SUITE 1600 ONE WORLD TRADE CENTER PORTLAND, OR 97204			ALLAWI, ALI	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/700,161	<b>Applicant(s)</b> CANNON, BRET D.	
	<b>Examiner</b> ALI ALLAWI	<b>Art Unit</b> 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 and 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-24 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8-12,14,15 and 25 is/are rejected. .
- 7) ☒ Claim(s) 3,7 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/03/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement filed on 03 November 2003 has been entered and reference considered by the examiner.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-6, 8-12, 14-15 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whittaker et al. (5,636,035)

In regards to claims 1, 8, 14 and 25, Whittaker et al. discloses a method and apparatus for modulation laser spectroscopy comprising a first and second frequency modulated light signal containing information and controlling the frequency of the tunable laser to control the difference between the two signals. Whittaker et al. further discloses removing any baseline laser drift caused by residual amplitude modulation taking into account the difference between the first and second modulation steps. Whittaker et al., however, is silent as to, fully defining the modulation indices of the two modulated signals. To take into account the modulation index of a signal, which is the quantity that indicates by how much the modulated variable varies around its unmodulated level, would have been obvious to one of ordinary skill in the art in order to

perform the nulling effect of the undesired amplitude modulation for better clarity and detection of the signal and its contents. (See Col. 4: 39-60, Col. 7: 15-20)

In regards to claims 2 and 11, Whittaker et al. further discloses method and apparatus which include generating the first and second frequency modulated light signals from the same laser light source. (See Figure 1, Col. 8: 56-60)

In regards to claims 4-6, 9, 10, 12, and 15 Whittaker et al. further discloses a method and apparatus which include directing the frequency modulated light to a substance to obtain spectroscopic information, detecting a combination of the first and second frequency modulated light signals, generating an output signal based on the detection with the output signal representative of the reduced residual amplitude modulation, and generating a feedback signal based on the detection and regulating the second frequency modulated light signal from an output device responsive to the feedback signal. (See Figure 1, Col. 8: 56-68, Col. 9: 1-10)

#### ***Additional Prior Art***

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. The references listed in the attached form PTO-892 teach of other prior art that may anticipate or obviate the claims of the applicant's invention.

#### ***Allowable Subject Matter***

Claims 3, 7, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, taken alone or in combination, fails to disclose or render obvious a reduction of residual amplitude modulation method and apparatus containing signals with common modulation frequencies and differing carrier frequencies (claim 3), different modulation indices (claim 7 and 13), in combination with the rest of the limitations of claims.

Claims 16-24 are allowable subject matter. The following is a statement of reasons for indication of allowable subject matter: the prior art of record, taken alone or in combination, fails to disclose or render obvious an apparatus having a first detector responsive to the second light signal and a third light signal to provide output representative of the spectroscopic information with the residual amplitude modulation reduced in accordance with a difference between the first and second indices

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Allawi whose telephone number is **571 272 8285**. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

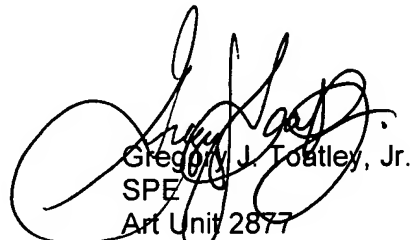
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on **571 272 2800 ext. 77**. The fax phone number for the organization where this application or proceeding is assigned is **571 273 8300**.

Art Unit: 2877

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



AA  
12/12/2005



Gregory J. Toatley, Jr.  
SPE  
Art Unit 2877  
9 Jan 06